



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,721	12/30/2004	Koichi Hikida	07241.0037	7499
22852	7590	06/14/2006	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			KHUU, HIEN DIEU THI	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H/A

Office Action Summary	Application No.	Applicant(s)	
	10/519,721	HIKIDA ET AL.	
	Examiner	Art Unit	
	Cindy D. Khuu	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03/30/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 is/are allowed.
- 6) ☒ Claim(s) 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/30/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings Objection

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "reference point estimation means" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claims 13-20, the methods of azimuth measuring do not produce any tangible results. The practical application of the claimed invention cannot be realized until the information determined is conveyed to the user. For the result (azimuth measurements) to be tangible, it would need to output to a user, displayed to a user, stored for later use, or used in any tangible manner. Hence, the claims are treated as nonstatutory functional descriptive material (See MPEP Sec. 2106 and <http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>).

Pertinent Art Cited

The following US Patent Applications reveal the current state of the art:

Kato et al. (JP 2004-012416) teaches an azimuth measuring device (Drawing 1: Paragraph 27) comprising: earth magnetism detection means with 2 or 3 axes for detecting earth magnetism (1); output data acquisition means (3, 4 or 5) for acquiring 2-axis output data (output of 1 to output of 5) when the orientation of said earth magnetism detection means changes while keeping the detection directions of said two axes on a predetermined plane (Drawing 1: Solution, lines 1-3) or 3-axis output data (output of 1 to output of 5) when the orientation of said earth magnetism detection means changes in a three-dimensional space repeatedly a predetermined number of times or more (Drawing 1: Solution, lines 1-3: Paragraph 34) and offset information calculation means (8) for calculating offset information with respect to the output data of said earth magnetism detection means (Paragraphs 39-40).

However, Kato does not teach at least a reference point estimation means for defining a reference point on a two-dimensional coordinate system whose coordinate values correspond to said 2-axis output data or on a three-dimensional coordinate system whose coordinate values correspond to said 3-axis output data and estimating the coordinates of reference point using a statistical technique so that a variation in the distance from the 2-axis or 3-axis output data group acquired by said output data acquisition means to the reference point becomes a minimum.

Kuno et al. (US 4,497,034) teaches an azimuth measuring device (Fig. 1) comprising: earth magnetism detection means (1) with 2 axes detecting earth magnetism (Abstract, lines 1-6); output data acquisition means for acquiring 2-axis output data ($K2x$, $K2y$) when the orientation of said earth magnetism detection means changes (Orientation of 1 changes when orientation of vehicle changes; Column 3, lines 10-11) while keeping the detection directions of said two axes on a predetermined plane (direction of detection remains of x-y plane, Fig. 3); and offset information calculation means for calculating offset information with respect the output data said earth magnetism detection means based on said coordinates of reference point (See steps 409, 410, 412, 413; Fig. 4).

However, Kuno does not teach at least a reference point estimation means for estimating the coordinates of reference point using a statistical technique so that a variation in the distance from the 2-axis or 3-axis output data group acquired by said output data acquisition means to the reference point becomes minimum.

Allowable Subject Matter

Claims 1-12 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 1 is the inclusion of the limitation "a reference point estimation means for estimating the coordinates of reference point using a statistical technique so that a variation in the distance from the 2-axis or 3-axis output data group acquired by said output data acquisition means to the reference point becomes minimum". The prior art of record, taken alone or in combination, fails to disclose or render obvious.

Claims 2-12 are allowed due to their dependency on claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Fax/Telephone Information

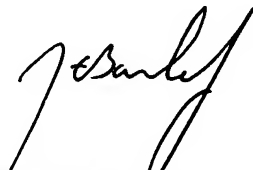
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy D. Khuu whose telephone number is (571) 272-8585. The examiner can normally be reached on M-F, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2863

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

UHL 6/5/06


JOHN E. BARLOW, JR.
PRIMARY EXAMINER
GROUP 2800